

Blue Ribbon Commission on Transportation Administration Committee

Final Meeting Summary

June 18, 1999

Approved July 16, 1999

Present: Doug Hurley, Chair, Peter Bennett, Vice Chair, Representative Ruth Fisher, Connie Niva, Patricia Notter, Ken Smith, Judie Stanton

Absent: Greg Devereux, Bob Dilger, Tomio Moriguchi, Senator Dino Rossi

Others in Attendance: Susan Crowley (City of Seattle), Gary Demich (WSDOT), Terry Finn (Port of Seattle), Charlie Howard (WSDOT), Sally Marks (King County Department of Transportation), Christina Mudgett (County Road Administration Board), Jerry Porter (Kiewit Pacific Company), Richard Richmire (City of Seattle), Dan Rude (Transportation Improvement Board), Bob Schuster (Sverdrup Civil, Inc.), Charlie Shell (City of Seattle), Rick Smith (WSDOT)

The Chair called the meeting to order at 9:05 a.m. The Committee approved the summary of the May 12th meeting as drafted.

After the Committee members and meeting attendees introduced themselves, the Chair distributed two newspaper articles, one on Portland's regional government and one on the new Georgia Regional Transportation Authority. He invited Committee members to participate in an informal discussion of preliminary findings following the meeting, and he reviewed the schedule of upcoming Commission activities and deadlines.

The Chair explained that today's meeting would focus on alternative methods of capital project delivery, with two speakers from the Washington State Department of Transportation and one representing a private contracting company.

Interstate 5 South DuPont Interchange

Gary F. Demich, P.E., the Olympic Region Administrator for the Washington State Department of Transportation, described the DuPont Interchange case as a model of alternative project delivery methods. Under the traditional design/bid/build model, the estimated timeline for the project would have been about 50 months, more than four years. However, Intel and the Weyerhaeuser Real Estate Company wanted the project completed in two years and were willing to pay for it. In response, WSDOT proposed a 38-month schedule, but Intel declined its offer. After securing agreements with the state Department of Ecology and Department of Community, Trade, and Economic Development, WSDOT was able to shorten the timeline to 28 months, which Intel accepted. In fact, the project opened for use in October 1997, several months ahead of schedule.

Demich described several keys to the success of the DuPont project: involvement and buy-in, teamwork, profound knowledge and dedication, and risk taking. An Interchange Steering Committee, which included the Pierce County Executive, the Mayor of DuPont, and other key decisionmakers, directly involved public officials and leaders in the project, giving it buy-in and involvement at high levels. Within the government, a Process Owners' Team consisting of WSDOT and Federal Highway Administration officials met regularly and devoted significant attention to the project. As WSDOT's number-one priority, the project received "first in line" treatment throughout its development and review. These features of the DuPont process can only be duplicated for a few high-profile projects at a time, but other aspects of the DuPont experience may be replicable to other projects. According to Demich, the Project Design Team and Project Construction Team brought dedication and profound knowledge to the project, facilitating its success.

Finally, risk taking was a key factor in enabling the completion of the DuPont interchange in such a short timeframe. This risk taking was possible because the \$19.3 million project was privately funded, and the Weyerhaeuser Real Estate Company was willing to assume some risks to complete the project on schedule. The risks involved overlapping various stages of the project, which in the traditional project delivery model are typically conducted only after the previous phases are complete. For example, the project leaders initiated the environmental review process based on a preliminary, rather than final, project layout. They began designing the project's five bridges before securing approval of the final interchange plans and completing geological tests. They also began acquiring the necessary right-of-way before they had completed the design and environmental permitting processes. Additionally, WSDOT advertised and awarded the contract before receiving all the utility permits and agreements. The risk associated with overlapping these stages of the project is the possibility of needing to re-do portions of the work, such as design changes. However, completing the project on this short schedule saved Weyerhaeuser \$900,000 in interest costs alone, so the company considered it worthwhile to take some risks.

In applying the lessons of the DuPont interchange to future projects, Demich made the a number of recommendations:

- Develop a comprehensive plan; work with process owners and support groups.

- Choose your project team wisely.
- Involve the team in planning; their support of the plan and schedule is critical.
- Use the appropriate environmental review document.
- Identify specialty consultant needs as early as possible in the process.
- Accelerate the work schedule at the beginning, not the end, of the process.
- Maintain effective working relations with support groups (contractors, etc.).
- Focus on outcomes, rather than procedures; give team members and support groups the authority and responsibility needed to achieve these outcomes.
- Develop a construction strategy; plan ahead, and purchase key materials early.
- Employ appropriate risk taking to conduct various phases of the project in parallel rather than sequentially.

Following the presentation, the Committee raised a number of issues in discussing the DuPont project. Members noted that in the private sector, the benefit of taking risks is the associated reward when the risks prove successful, but they questioned how to replicate this payoff in the public sector. As Demich noted, government systems are structured to avoid taking risks with public funds and that making mistakes with public dollars is not politically acceptable. The Committee noted, however, that the payoff of completing projects sooner could justify taking some risks, especially if the risks could be “pooled” and distributed among multiple projects.

Design/Build Project Delivery Process

Rick Smith, WSDOT’s Design/Build Project Manager, described the design/build project delivery process within the state transportation department. The design/build model can replace the traditional model in which WSDOT designs a project, solicits outside bids, then selects a contractor to build the project according to the department’s specifications. With design/build, WSDOT selects a single contractor that works with the department in designing the project and then constructs the project itself. WSDOT is currently conducting a pilot program to test the design/build model.

The agency is seeking to promote innovation and increase opportunities for direct communication between the designers and builders of projects. Some advantages that the design/build model can offer include improved collaboration between the designer and builder, having a single point of responsibility for the project, expected decreases in delivery time, and the possibility of beginning some construction prior to completion of the design work. Potential disadvantages include possible increased costs and having less WSDOT involvement and oversight. In using the design/build model, WSDOT expects that bid prices will be about the same or slightly more than under the traditional model and that projects will have faster delivery times.

According to the Federal Highway Administration, 20 other states are using variations of the design/build model for some highway projects. Some states have passed new legislation authorizing

design/build activities, and others are working under existing statutes. Arizona, California, Florida, Maine, and Utah provide a number of useful examples that WSDOT has drawn from in creating the Washington program. Florida has been using design/build since 1987, and a report recently evaluated 11 design/build projects in the state. The study found that bid prices for design/build projects were about the same as for traditional design/bid/build projects, but delivery times were about 35 percent faster for design/build.

In 1998, the Washington State Legislature passed Substitute Senate Bill 6439, authorizing a test of design/build methods for transportation facilities. The law calls on WSDOT to develop a process for design/build projects and select two projects costing \$10 million or more. Accordingly, WSDOT worked with a range of government officials, outside contractors, consulting engineers, and other stakeholders to develop a process for design/build projects. The agency recently selected two pilot projects: one on I-5 (SR-5) in Bellingham and one on SR-500 in Vancouver.

Smith expected that WSDOT would publish a Request for Proposal of Qualifications for each project in July 1999. After reviewing the qualifications presented, the agency will prepare a short list of three to five contractors selected to develop project proposals. WSDOT will evaluate the final proposals based on a technical component, which the agency will review and score first, as well as the price of the bid. In selecting design/build contractors, many other states simply pick the lowest bidder, but WSDOT plans to use a combination of factors including technical ability, innovation, experience, and price. The technical evaluation will include consideration of the proposed work plan and schedule, management and organizational issues, and technical solutions. Then, WSDOT will divide the technical score by the bid price to determine which project proposal offer the best value. The agency believes this method will yield better results than simply selecting the lowest bidder.

As required in SSB 6439, WSDOT will evaluate the two design/build pilot projects and report its findings to the Legislature. The study will compare the actual project costs to estimated costs based on a design/bid/build model. It will also compare the timeline and quality of the pilot projects with traditional projects. If the pilot projects prove successful, the report will make recommendations regarding legal changes necessary to support extending the design/build model to future projects. For example, some current constraints on using design/build include provisions regarding contracting out of state work, use of labor unions, environmental concerns, and staged project funding. Current contracting rules may need revision, as some laws require selection of the lowest bidder, while others require hiring based on qualifications without regard to price. Based on its experience with the two current pilot projects, WSDOT may also seek authority for additional design/build pilot efforts.

Projects Using Alternative Project Delivery

Jerry Porter, Engineering Manager with Kiewit Pacific Company, presented case studies of two major design/build projects: the SR-91 Express lanes in southern California and the reconstruction of the I-15 corridor in Utah. He explained that about half of his company's workload consists of design/build projects, and Kiewit Pacific expects that proportion to increase in the future. Porter also discussed the findings of a major study on design/build in the construction industry.

In 1997, Penn State University and the Construction Industry Institute published a study of 351 projects built using three different models: the traditional design/bid/build sequence, construction management at risk, and design/build. None of the projects in the study was a transportation project, but Porter felt that the report's findings were applicable to the transportation sector. The study evaluated projects based on cost, schedule, and quality. Compared to traditional projects, the report found that design/build projects had 6 percent lower unit costs, 12 percent faster construction times, and 33 percent faster total project times (design and construction). In addition, they outperformed design/bid/build projects on every quality measure that the study examined. The PSU/CII study found that design/build projects can offer a number of advantages over traditional projects, including the following:

- time savings
- engineering and construction cost savings
- earlier knowledge of costs
- value engineering and constructability input "up front"
- quality improvement
- communication and partnering
- avoidance of change orders

In 1989, the California State Assembly passed Assembly Bill 680, authorizing four demonstration projects of build-transfer-operate franchises. Under the law, these franchises would be leased to developers for up to 35 years. AB 680 required that the new facilities must "supplement" existing state highways. The bill allowed developers to earn a "reasonable return" on their investments, and it did not regulate toll rates. Under the provisions of the act, the state transportation department, CalTrans, selected four projects, including the SR-91 Express lanes through the Santa Ana Canyon in the Los Angeles area. Following project development and financing between 1990 and 1993, CalTrans executed a design/build contract with the California Private Transportation Company for delivery of the new express lanes. The project is ten miles long, with four lanes built in the median of the existing highway. SR-91X marks the first privately financed toll road in the postwar era, and it is the first implementation of congestion pricing in the United States. Porter described the automated system for collecting tolls and monitoring violations. He also noted that the design/build arrangement helped facilitate completion of this project within budget and 13 months ahead of the CalTrans schedule. Of the four pilot projects that CalTrans originally selected, SR-91X is the only one built to date.

To reconstruct the Interstate 15 corridor through Salt Lake City, Kiewit Pacific Company is teamed with two other contractors in a design/build contract to rebuild about 15 miles of freeway. The \$1.3 billion project involves reconfiguring all interchanges, building three new railroad separations, reconstructing four viaducts to downtown, and modifying a number of frontage roads and local streets. Such an effort would typically take about ten years under a traditional design and construction timeline, but the schedule was reduced to four-and-a-half years in order to complete it by October 2001, in time for the Winter Olympics. Having a single contract and point of contact as well as beginning construction before final design work enables a shorter time schedule and saves money. The design/build model also facilitates the use of innovative construction techniques, such as using geofoam instead of fill dirt for freeway embankments. The Federal Highway Administration stated that the I-15 reconstruction project “demonstrates that innovative methods... not only can save taxpayers dollars but also provide real benefits to millions of users.” FHWA added that design/build is “a 21st century way of doing business and an ideal example of what commonsense government is all about.”

Next Meeting

The next Administration Committee meeting is scheduled for **Friday, July 16, 1999**, and will include presentations on contracting out and managed competition, including the experience nationwide and examples from Indianapolis. The meeting will also include discussion of other administrative efficiency issues and of preliminary Committee findings. The meeting will take place from **9:00 a.m. to 12:00 p.m. in the SeaTac Room on the 12th floor of the SeaTac Holiday Inn**, located at 17338 International Boulevard in the City of SeaTac. (Please note that this location represents a room change from the printed schedule.)

The meeting was adjourned at 12:00 p.m.